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TOWARD A CONCEPTUAL ARCHITECTURE OF A SELF-RENEWING SCHOOL SYSTEM.

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BASIC SOCIAL SYSTEM AND ROLE THEORY CONCEPTS ARE APPLIED TO THE SCHOOL SYSTEM. POSITIONS, ROLES, INTERACTIONS, AND STRUCTURAL ASPECTS ARE BRIEFLY DEFINED. CHANGE IN A SOCIAL SYSTEM IS ACCOMPLISHED THROUGH BOTH INTERNAL AND EXTERNAL FORCES. OVER THE YEARS, SCHOOL SYSTEM CHANGE HAS BEEN LARGELY SPORADIC, EXPEDIENT, SCATTERED, LATE, AND SUPERFICIAL. TEN STEPS ARE DESCRIBED THROUGH WHICH A SCHOOL SYSTEM CAN REALIZE A PROGRAM OF CONTINUOUS SELF-RENEWAL--(1) SENSING POSSIBLE AREAS AND NEEDS FOR IMPROVEMENT, (2) DETERMINING ITEMS WHICH MERIT FURTHER INVESTIGATION, (3) DIAGNOSING SPECIFIC NEEDS THROUGH SOME FORM OF RESEARCH AND DEVELOPMENT, (4) INVENTING OR GENERATING REMEDIES BY WIDE PERSONNEL PARTICIPATION, (5) WEIGHING RESULTANT SOLUTION PROPOSALS, (6) DECIDING ON THE COURSE TO FOLLOW, (7) INTRODUCING THE CHOSEN INNOVATION INTO THE SYSTEM, (8) OPERATING THE INNOVATION ON A TRIAL BASIS, (9) EVALUATING THE INNOVATION BOTH CONTINUOUSLY AND PERIODICALLY THROUGH AN OBJECTIVE AGENCY, AND (10) REVISING THE INNOVATION TO IMPROVE ITS EFFECTIVENESS. SPECIFIC MECHANISMS ARE BRIEFLY OUTLINED FOR EACH STEP IN THE PROCESS. THIS ARTICLE WAS PUBLISHED IN "CHANGE IN SCHOOL SYSTEMS," AVAILABLE FROM THE NATIONAL TRAINING LABORATORIES, NATIONAL EDUCATION ASSOCIATION, 1201 16TH STREET, N.W., WASHINGTON, D.C. 20036, FOR $2.50. (JK)

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CHANGE IN SCHOOL SYSTEMS

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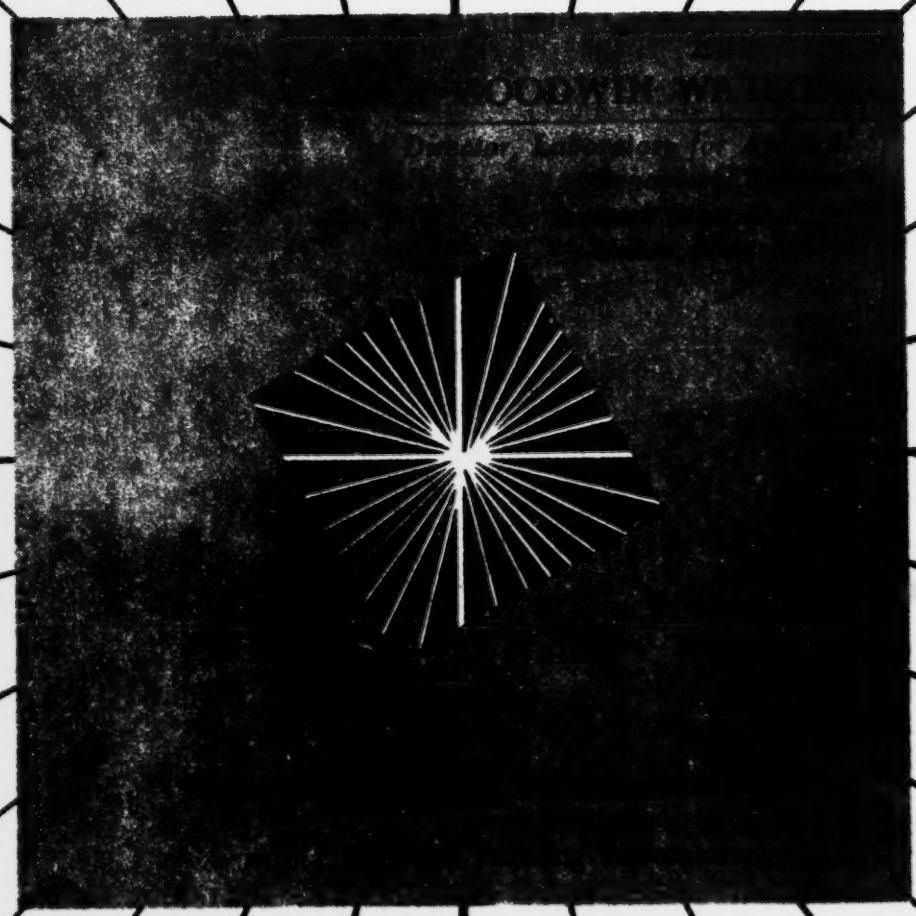

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COOPERATIVE PROJECT FOR EDUCATIONAL DEVELOPMENT

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INTRODUCTORY NOTE—WHAT IS COPED?

Change in School Systems is a companion volume to *Concepts for Social Change*. The working papers presented in *Concepts for Social Change* develop the core ideas about planned change that give direction to the Cooperative Project for Educational Development (COPED). The papers in *Change in School Systems* focus attention on the special properties and processes of the schools and on strategies for change designed to test and develop the core ideas. Although COPED is concerned with improving education, the ideas in both sets of papers are relevant to change in other social contexts and, indeed, were in many instances derived from work in other fields.

COPED is a number of things. It is a three-year project, funded by the U. S. Office of Education, for "the exploratory development of models of planned change in education" in about 25 school systems located in the metropolitan areas of New York, Boston, Chicago, and Detroit-Ann Arbor (with affiliates separately funded in Madison). It is an emerging inter-university facility committed to joint inquiry, to collaborative action, and to interdependence among universities and school systems as a means to improving education. COPED is thus a linker, joining behavioral scientists and school system "change-agent teams" within and across regional centers. With coordination by the National Training Laboratories of the NEA, COPED links staff teams from Teachers College, Yeshiva University, and Newark State College; from Boston University and Lesley College; from the University of Michigan; from the University of Chicago; and from the University of Wisconsin.

To a degree not fully anticipated, COPED has also become a leadership development facility. Looking at the young behavioral scientists who in a few months have achieved full colleagueship at each center, we were reminded at a recent all-staff COPED seminar that "a chicken is simply an egg's way of making another egg." COPED has been an effective producer and assimilator of competent staff members. It has done so by providing a continuing seminar anchored in the realities and urgencies of working with school systems. Through personal interactions among people with a wide range of experience and knowledge, the seminars and regional staff sessions have provided learningful confrontations around ideological, conceptual, methodological, and value issues.

COPED's effectiveness in the area of professional development was greatly enhanced in 1966-67 when grants from the U.S. Office of Education and the Fund for the Advancement of Education of the Ford Foundation enabled NTL and COPED to initiate in-service training programs both for university-based interns and for school system- and education association-based training consultants.

COPED is also a forum—a continuing seminar—for conceptualizing about, studying, and developing models for bringing about improvement in education. The titles of the first papers prepared for discussion at COPED seminars, the working papers presented in *Concepts for Social Change*, reflect the themes and concerns of COPED. Buchanan, in "The Concept of Organization Development, or Self-Renewal, as a Form of Planned Change," links COPED concerns to relevant issues in settings other than education. Watson's "Resistance to Change" specifies factors at the individual personality and social-system levels which make for resistance. In "Concepts for Collaborative Action-Inquiry" Thelen distinguishes between "forced change" and "genuine change" where change in overt behavior is rationalized in internal changes of concepts, perceptions, and attitudes. Lippitt's "The Use of Social Research To Improve Social Practice" describes patterns of using scientific resources in coping with persistent social problems. Havelock and Benne develop a conceptual framework in "An Exploratory Study of Knowledge Utilization." Klein's paper on "Some Notes on the Dynamics of Resistance to Change: The Defender Role" calls attention to the positive contribution that resistance may make in change efforts. The concluding paper in that volume, "Self-Renewal in School Systems: A Strategy for Planned Change" by Miles and Lake, illustrates application of the various concepts in the development of strategies for change in education. The papers in the present volume continue the discussion but focus more specifically on the schools and on strategies for action.

Finally, COPED is an organizational experiment testing the feasibility of creating and sustaining an inter-university facility for collaborative work with schools. The concept of inter-university collaboration has been put to rigorous test. There are clearly costs to be paid in time, in communications efforts, in energy, and in threatened autonomy, conflicting loyalties, and potentially "watered down" compromise. Thus far there is the conviction that the benefits outweigh the costs. Incentives to collaboration have included access to a wider range of ideas and experience and to joint resources for staff development and for work on such specific tasks as developing research instruments. Long-range or anticipated values include richer interpretation of results because more school systems can be included, a wider range of strategies can be studied, and a greater range of orientations can be explored. Conceptual work is richer and

more challenging than it would be within individual regions. Assumptions and issues are more sharply defined through inter-regional reaction and interaction. At the same time inter-regional commitments and responsibilities have supported continuous task accomplishment which might have been postponed if the region alone were involved.

A variety of means have been used in fostering inter-regional collaboration. A representative Executive Committee was created at the first all-staff seminar. It meets approximately every other month and holds more frequent one-hour telephone conferences. (The conference call is beginning to be used by other COPED committees and task forces and also to link participating school systems and university staff members within a region.) The all-staff seminars every three or four months have been the major means for identifying and working through issues and giving COPED an identity. The joint development of the in-service training program and continuing utilization of the interns and the school system training consultants is another major source of organizational strength.

COPED goals are emergent, with testing and reformulations made through the seminars, task forces, and regional sessions. The goals have been stated broadly as:

To increase knowledge about how change takes place in schools.

To develop, assess, and draw generalizations regarding the effectiveness of specific strategies of planned change.

To disseminate, in ways that they are likely to be utilized, findings and materials generated through COPED.

To help about 25 school systems become self-renewing (innovative, competent in the management of innovations, skillful in problem solving).

To influence the universities as sources of help to school systems.

COPED will be asking:

What actual changes occur in COPED-linked school systems?
What are the causes for these changes?

At this writing—when pre-involvement measures are being taken and relationships established between university and school systems—no one is under any illusions that the task is simple. The reality, as Matthew Miles, Measurement Committee chairman, has stressed, is that some 25 school systems are being entered by COPED change agents with varying entry strategies and with a wide variety of subsequent change approaches carried out in different operating centers. To assess change carefully and

explain it plausibly represents a very substantial challenge. We know that the challenge has to be accepted if we are to emerge with findings that relate significantly to pressing educational problems and not simply with 25 "interesting" development projects.

A major commitment through a number of months has therefore been to the development of a "core package" of assessment instruments. By its reality and its urgency, this effort has helped bring COPED into being as an organization. It has also demonstrated one of the important rewards in attempting to work in an inter-university staff rather than independently. The development of the core package has utilized the variety of special interests and competencies represented at the various centers.

As issues and problems, as well as potential benefits, have become clearer, stronger commitment has developed to cross-center designing and the ultimate discipline this involves. The earlier Measurement and Continuous Assessment Committees have been merged into a representative Research Council and given responsibility for improving the core package; for helping the regional groups make their hypotheses more explicit and classifying the districts they are working in more rigorously; and for formulating, "working," and bringing important issues to the total staff. For example, the Council has been helpful in defining the relative demands of service to client-collaborator and of research. To paraphrase William Schutz, research coordinator for COPED, we need to be rigorous and experimental in formulating hypotheses, testing them, and evaluating results. But if we are to avoid sterile results—much ado about little—this phase of the scientific enterprise needs to be preceded by a period of discovery. The researcher entering the system needs to be open, creative, sensitive to the situation, imaginative, free to *discover* what the problems really are and what is happening.

COPED's potential importance lies in what can be learned not only about change and improved problem-solving skill and self-renewal in schools but also in what can be learned about interdependent approaches to educational problems. While it is too early to predict the ultimate contribution of COPED, experience thus far suggests that inter-university facilities can be created and sustained and that collaboration can be achieved between university and school to the advantage of each. The readiness of school systems to enter into COPED—though this means commitments of time, energy, and funds—is one of the promising factors.

Without naming the entire staff and each of the committees, it would not be possible to acknowledge the contributions that have brought COPED into being. NTL's Core Committee on Education should be

listed as the initiators—Ronald Lippitt, chairman, and Paul Buchanan, David Jenkins, Matthew B. Miles, Don Orton, Herbert Thelen, and Goodwin Watson. The COPED Executive Committee should also be named: Charles Jung, Fred Lighthall, Dale Lake, Elmer VanEgmond, Richard Hammes, Robert A. Luke, Jr., Miriam Ritvo, Loren Downey, Donald Barr, Audrey Borth, and Robert Fox. There should also be acknowledgment of the roles of William Schutz as research coordinator, Goodwin Watson as publications chairman and COPED editor-in-chief, and finally, Stanley Jacobson, who has made preparing these papers for publication his first project as newly appointed publications director for NTL.

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TOWARD A CONCEPTUAL ARCHITECTURE OF A SELF-RENEWING SCHOOL SYSTEM

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This paper presents an attempt to think through, systematically, the kind of school system which the Cooperative Project for Educational Development (COPED) envisions. It starts with basic social theory and develops concepts for the structure and processes needed to insure self-renewal. The concepts that emerge have considerable relevance for the processes of consultation and intervention which will bring about this kind of system, but the focus here is on how the end-product will look and how it will operate.

SYSTEM AND ROLE THEORY

1. Every social system is composed of interlocking positions and interacting roles. Among the positions in a school system are those of parent, board member, superintendent, principal, teacher, caretaker, and pupil. Each position requires role-performance in relation to what persons in other roles expect and do.

2. Smaller systems are either loosely or more tightly integrated within larger social systems. Thus a single school is part of a city school system, and the city school system is itself part of county, state, and federal educational operations. The schools are parts within other systems such as city government; economic and tax structures; and activities of state, national, and world organizations. When one part of a system changes, it produces strain at the interfaces of interaction with other parts until the other parts have adapted to the change.

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3. As roles interact within a subsystem, and as parts interact within larger systems, they are reciprocally modified toward a working equilibrium. The roles and parts do not change equally. Those lower in any hierarchy of power and prestige adapt-to-conform more than do the higher levels. Some parts of the culture, such as the ritualistic and sacred activities, change less than do others, notably the technological.

4. Social systems tend to be stable and homeostatic; after minor disturbances they return to an equilibrium approximating their state before the unsettlement. A chronic disillusionment of reformers is that their success proves only temporary and has fewer good consequences than they expected. "Clean-up" campaigns in city politics or "new broom" effects of a new school superintendent illustrate the thesis. Some behavioral scientists argue that social systems are only self-perpetuating; they question whether systems can ever become characteristically innovative, growing, and self-renewing.

5. Social systems are generally hierarchical, with level of prestige, power, and responsibility. The higher-level roles are more satisfying to occupants and offer more freedom for self-actualization. Hence, need for change is less apparent to persons at or near the top of the system.

Schools, in one respect, differ from most other hierarchical institutions. Teaching is a profession and teachers often are given a high degree of autonomy within their classrooms. They are less closely supervised by superiors than are factory operatives or sales clerks.

Some innovations can easily be introduced by any teacher. The classroom, however, is a part of larger social systems which design the curriculum, the building, the working schedule, the assignment of pupils, the pay scales, the equipment, the forms of reporting, and many other factors conditioning the teaching process. The teacher commonly feels as helpless to influence these larger social systems as would a subordinate in any other large organization.

6. The structures of a system largely determine the patterns of interaction which take place within it; and these, in turn, form the attitudes of participants. This is the S P A sequence—from the situation (S) to the processes of social behavior (P) to the consequent attitudes (A). The habits, beliefs, and sentiments which arise within a system (religious, political, commercial, family) have been formed by experiences which have been shaped by the prevailing institutions. If a society be patriarchical, male-dominated, racially segregated, Moslem, and pastoral, its structural characteristics will affect the behaviors of adults and children in ways which produce generally congruent attitudes. Even if some members find life unhappy, they are likely to believe that their particular culture is better than any other and that it cannot readily be changed. They live resigned, if not satisfied.

SOURCES OF CHANGE

7. While either internal or external forces or both together can effect change in a social system, the usual congruence of member attitudes with the traditional ways of operating (Thesis #6) means that most change usually is initiated by outside impact rather than internal dissatisfaction. Racially segregated schools have been slow to change, even under the impact of Supreme Court edicts, the economic pressure of federal aid, and active movements for racial equality. Scientists and mathematicians may have been dissatisfied with public school curricula and performance in these disciplines, but not until the first Sputnik symbolized a contest with the U.S.S.R. did the schools change their programs.

8. The rapid advance of the scientific and technological sectors of our society creates stress on many interfaces where they impinge on slow-changing institutions. The impact on education has been manifold. Accelerating scientific advance has brought the "explosion of knowledge" which forces revision of curricula. Technological changes have eliminated some traditional occupations and created demands for new kinds of training. Rapid communication and transportation have made the ethnocentric curriculum of American schools an anachronism. New opportunities are presented to teachers by new media: films, projectors, tape-recorders, kinescopes, T.V. and closed circuit T.V., microfilm, computers, and other instruments. As technology has raised standards of living, it has also made college education economically possible for more pupils and has changed their secondary school demands. A more subtle influence arises from the conflict between prescientific and scientific methods of thought in certain areas of our culture.

9. While internal change-influences are less potent than the contextual pressures, they are still important and occasionally become the main source of an innovation. Every participant in a social system experiences some conflict between his personal needs and the role-demands of his position in the system. When these become intense and shared by many persons, they generate reforms or rebellions. No institution accords perfectly with the values of its members. What seems to be inertia may be rather what Lewin has called a "quasi-stationary equilibrium" in which forces for and against a specific change are fairly evenly balanced. Change may be brought about either by increasing the forces favoring change or by decreasing the resistance to change. School board members, superintendents, curriculum specialists, supervisors, guidance counselors, principals, teachers, parents, custodians, and pupils would each welcome certain changes. They are apt not to express these desires for change. They may fear that frank presentation of dissatisfaction could threaten them with criticism, reprisal, or loss of position. They may distrust their

own impluses ("Who am I to make suggestions to all these wise, experienced, powerful others?"). They may suppose that their suggestions for change will be interpreted as "rocking the boat" or "trouble-making" or presumptuousness. Hence, there remains an unexpressed potential readiness for change which can occasionally break through in surprising demonstrations. Because the discontent has not been openly aired and examined, it accumulates and emerges, sometimes in blind, passionate revolt. So long as the explosions are individual and isolated, the system handles them by suppression or expulsion. In the rare instances when many individuals join together in a protest action, the system has to adapt.

10. Most innovations come to be adopted through diffusion. The original innovating person or institution must have responded to unusual pressures and opportunities. Later, others hear about the new ideas or programs. Sociologists distinguish a two-step process by which a small group of "influentials" are the first to learn about the new project and become transmitters to a wider circle. Lippitt has suggested that school systems are seriously deficient in transmission processes for new and improved ways of working. Hundreds of successful classroom innovations are born to bloom unseen. Some get into journal articles, conversational reports, or books—but many are unknown even to other teachers in the same building.

On the receiving side of diffusion are the educators who "get around," who visit forward-looking school systems, take graduate courses, go to conventions and workshops, serve on committees of national organizations. The "cosmopolites" hear about what is being done: they spread the news and maybe try some of the borrowed innovations in their own schools.

PREVAILING PATTERNS OF CHANGE IN SCHOOL SYSTEMS

11. School buildings of the 1960's are clearly different from those of fifty years ago. What goes on inside the buildings may or may not be as modern. By and large, most changes have been introduced:

(a) sporadically rather than continuously;

(b) by outside pressure rather than generated from within the system itself;

(c) for expediency rather than as an expression of conviction or planning;

(d) one here, one there, rather than in a cumulative and integrated design;

(e) much later than desirable—lagging rather than leading;

(f) at a superficial level, rather than in the basic and fundamental educational functions;

(g) to bring kudos to certain ambitious individuals rather than to do the educational job better.

12. Change has sometimes come so slowly that new educational institutions have arisen to meet the social needs. Traditional academies were replaced by modern secondary schools; youth-serving organizations arose to meet recreational needs the schools did not serve; junior colleges filled a gap not met by existing colleges; "classrooms in the factories" are doing an immense adult education service which schools could not take on; "head start" programs serve young children the schools were unready to assist.

A DESIGN FOR CONTINUOUS SELF-RENEWAL

The following ten steps are derived from analyses of the process of constructive thinking and problem solving: sensing, screening, diagnosing, inventing, weighing, deciding, introducing, operating, evaluating, and revising. Success at each step is partly a matter of cognitive clarity about the goal and appropriate methods of each process. Success depends also on emotional involvement, on skills which need to be developed, and on social structures which will encourage and sustain the desired attitudes. Each of the ten steps will be considered here in turn. The discussion of each step will close with a summary statement of the structural implication of that step for the self-renewing school.

Sensing

1. Sensing is everyone's business. Sensitivity to unmet needs in individuals, whether pupils or staff, and to changing social situations affecting education can never be adequate if it is seen as the duty of one man or a small group. Everyone involved in the schools is likely at some time to become aware of a need for improvement. One distinctive characteristic of a self-renewing school system is that there is constant and widespread sensing of problems and of new possibilities. These are openly expressed, shared, and considered. In varying degrees, everyone listens to everyone else. Participants feel free to talk about the things they think need improvement.

While the general climate of openness and interpersonal trust is essential to permit and encourage the bringing out of sensed difficulties, it is also important to delegate special responsibilities to some parts of the school system. Keeping up—with scientific discovery and technological invention in emerging or waning vocations; new trends in art, architecture, music, and literature; fresh problems and activities of government;

and current efforts in other progressive school systems—is too large an order to leave entirely to personnel busy with other jobs. In many communities there are some citizens who make it their business to be up-to-date in one or another of these areas. Perhaps an advisory committee on emerging trends could enlist persons especially likely to be aware and in touch.

To supplement the free spontaneous expression of students, teachers, administrators, and parents, periodic surveys should be operated to scan the range of concerns which are important to good and better education. Special attention needs to be paid to those lower in the hierarchy who have previously not felt much freedom to express their feelings.

Structural implication: Mechanisms for "keeping up" with internal concerns and external trends and resources.

Screening

2. Not every trend in the larger society, and not every difficulty or frustration within school personnel, should lead to significant innovation in the schools. Some order of importance and priority must be established so that the school system can go to work on its more urgent problems. Too often, proposed improvements are concentrated in the areas in which it is easy for school people to operate (e.g., getting more upper-middle class pupils into college) and neglect the really tough situations. Final responsibility for screening and setting priorities rests with the school board, but a policy committee of staff and citizens to advise the superintendent might also help to recommend wise selections. The mechanism required would be a funneling of data from sensing apparatus through a preliminary screening and then to one or more bodies charged with responsibility for deciding whether the items merit further investigation.

Structural implication: A mechanism for setting problem priorities.

Diagnosing

3. This step, of critical importance in guiding constructive action, is too often short-cut. It is one thing to be aware that many students lack intellectual curiosity; it is quite another to understand *why*. "Too many students suspended" and "too few parents taking an interest in P.T.A." show needs for some attention, but do not represent a basis, yet, for action proposals. A whole series of questions remain to be answered: Who? Where? When? How do the incorrigible students or uninterested parents differ from those who do respond to school activities? It is essential to hold back on the common impluse to offer solutions until it is quite clear what the problem is and where it lies.

While everyone concerned can take some part in the movement from simple awareness that a problem exists toward defining and diagnosing the real trouble, again a self-renewing school system will have some agency especially devoted to this process. Probably it will take the form of a "research and development" unit, with some full-time personnel. They will conduct some of the scanning operations mentioned here (step 1), and they will move on to interpret the findings, integrate them with other information, and collect new data which may help define more precisely the problem to be solved.

A technique proved useful for better diagnosis is the "force-field analysis," which identifies those forces moving toward a given end and those in opposition. If each vector in a "quasi-stationary equilibrium" is drawn long (to represent a major force) or short (to represent a minor force), the sum of vectors in each of the opposed directions should be about equal. Once the major forces resisting a particular improvement have been identified, the groundwork has been laid for thinking about effective action.

Structural implication: Establishing a research and development unit.

Inventing

4. When problems have been noted by a sensing process, screened, and diagnosed, it is time to begin generating remedies. At this stage, brainstorming may be helpful, because, with initial evaluation suspended, all kinds of creative notions can get a hearing. This is a good opportunity to involve a wide range of persons, drawing upon a wealth of resources. Pupil groups of all ages, parents of both sexes, and various teaching, administrative, and community groups can be invited to contribute ideas. All start from essentially the same diagnosis of the problem, so the variety of reactions can be illuminating in understanding group and individual differences.

Structural implication: Mechanisms for wide participation in the production of solution proposals.

Weighing

5. Weighing the numerous suggestions that emerge from brainstorming is the next step. Sometimes the groups that have been generating ideas can help, using the last part of their session to select four or five which seem best to them. Eventually, however, a small group—perhaps the Administrative Council, or a Research-Development Bureau—must appraise the proposals: What would happen if this or that or the other were put into effect? It is useful, at this point, to distinguish factual questions from those of value and preference. Research can furnish

evidence on matters of fact; value questions call for an approach in which participants are able to communicate their feelings.

Structural implication: A mechanism for screening solution proposals.

Deciding

6. The culmination of the choosing process is deciding on a particular innovation or set of actions to cope with the diagnosed problem. Those who will have to implement the decision should be involved in making it. A true consensus, to which every participant is genuinely committed, is the ideal.

The approach to a true consensus is rather different from the process of decision which operates in parliamentary procedure. Parliamentary procedure begins with a motion, which is then seconded, debated, and voted upon, being decided by majority or a specified larger fraction of those voting. Often there are amendments, amendments to amendments, and a referral back to some committee for reworking. If a consensus is desired, the process would better be one of successive approximations. A proposal is made; it receives some support but some objections; a second formulation is attempted to take account of the objections; this is still not quite acceptable, so a third version is proposed; now the original objectors are satisfied, but too many concessions have been made and the original supporters are unhappy; so a fourth version introduces some reassurance for them, without alienating the others. Through a series of formulations, the proposal is chiseled into a shape acceptable to all. This often takes a long time, and there may be many decisions for which the gain (in wholehearted support and in assurance that all important viewpoints have been taken into account) will not be worth the time required to achieve consensus.

A kind of consensual process may operate over time, even if not every decision is a true consensus. Participants know that when they feel strongly, their position will be fully taken into account. They recognize, however, that there can be give-and-take in organization cooperation; and they are prepared to go along with some decisions which are not quite what they personally would prefer, because they respect and trust other group members and feel in accord with the main objectives.

Structural implication: Mechanisms for participation of eventual implementers in the decision-making process.

Introducing

7. The next function is introduction of the chosen innovation into the system. This requires some planning. Where? What units would give it

the best start? When? Timing is part of good strategy. By whom? The names associated with an innovation can help or hurt it.

A pilot project which can be gradually expanded is often a good approach. Sometimes, however, a change demands all-or-none adoption.

Another strategy question concerns getting aboard those persons who have not yet been involved in the sensing, screening, diagnosing, weighing, and deciding. There is likely to be resistance to a proposal which comes to them "out of the blue." If the change is disturbing and important, it may be necessary to conduct other groups of participants through some of the thinking process which led to the emergence and selection of the new project.

Structural implication: Mechanisms for strategy planning.

Operating

8. Operating the innovation as a normal part of the system for a period of time can hardly be further specified, since so much depends on what the affected processes are. A moratorium on revision or rejection until the project has had a fair chance to prove itself may be in order.

Evaluating

9. At the time when the innovation is designed, it should have had built into it procedures for recording what is done and evaluating the expected outcomes. Evaluation should be both continuous and periodic. It may be the responsibility of a research and development unit within the school system, or of a special subcommittee, or of an outside, impartial agency, or of some combination of these structures. A common error is to let evaluation be done by those conducting the operation. Their involvement in its success usually makes them less objective.

Structural implication: A mechanism for objective evaluation.

Revising

10. Revising the innovation to take out any "bugs" and to improve its effectiveness calls really for a repetition of most of the steps listed in this section. Need for some revision must be sensed, screened, and diagnosed; proposals must be invented, weighed, chosen, and introduced.

The apparatus of self-renewal—the mechanisms for internal and external sensing; the procedures for screening and diagnosis; the inventing, comparing, and selecting operations; the strategies of introduction, follow-through, and evaluation—itself needs periodic review, appraisal, and revision.

Structural implication: Mechanisms for re-appraisal and revision of the system, its processes, and specific innovations.

The structures and procedures outlined here may prove unduly formal and academic. Efficient and experienced persons discover short-cuts which work as well or better under certain conditions. The self-renewing school system will not give equal weight and attention to all changes. The full-scale, ten-step operation can be held in mind as a model, to be used when the innovation is truly momentous; approximations will be sufficient for many lesser problems.